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Tools For Nutrition Education—Some Examples

MARY M. HILL, Ed.D., Nutritionist, Consumer and Food Economics Research Division

Recommendations from the recent White House Conference for sequential nutrition education in schools have resulted in many conferences, institutes, and workshops throughout the country. These meetings of community nutrition workers were held for the purpose of planning ways and means of assisting school personnel initiate and conduct nutrition education programs.

Many of our readers have been involved in these planning sessions and are now requesting information about available tools for implementing activities in schools, particularly in elementary schools.

Over the years, many good demonstration programs have been conducted that include the development of such tools. In this issue of Nutrition Program News, we describe some tools that help teachers and administrators learn something about food practices of children.

WHAT CHILDREN EAT

Information that reveals present food practices and nutritional health of the children is helpful in planning activities based on nutritional needs. It helps to answer these questions: Do children usually eat breakfast? Are they eating enough dark-green and deep-yellow vegetables—enough citrus fruits? Are children drinking enough milk? If not, is the reason economic? Is it cultural? Or is it a matter of habit or food preference?

Teachers have gathered such information in several ways. The behavior of a child in the classroom, lunchroom, and on the playground may provide important clues to his nutritional needs. The content of the child's conversation, storytelling, drawing, or painting may also give leads. Contacts with parents, whether in casual conversation or formal teacher-parent conferences, are another source of information. Com-

munity personnel—such as welfare department case-workers, health department nurses and nutritionists, and the local medical and dental societies—also have important information which teachers can use.

Dietary surveys, properly interpreted, provide specific information concerning the kinds and amounts of food in the customary diet of the school population, as a whole, as well as in the diet of the individual child. The surveys may also reveal information concerning regularity of meals, skipped meals, and the choice of foods eaten between meals.

In some instances, surveys have been conducted by teachers. The results were most helpful in educational planning when interpreted by people knowledgeable in the field of nutrition such as home economics teachers with a background in nutrition, public health nutritionists, and nutrition staffs from nearby colleges or universities. In other instances, surveys have been conducted by community agencies with the cooperation of school personnel. From such activities, teachers learn what the children will and do eat.

SECURING FOOD RECORDS OF YOUNG SCHOOL CHILDREN

Diet survey

According to available literature, the most successful nutrition programs have been based on the nutritional needs of children. Therefore, some method must be devised to find out these needs. One method is the diet survey.

To make a survey, it is necessary to secure records of the kinds and amounts of food the children have eaten over a stipulated length of time. Then the records are evaluated and the results interpreted with a view to planning nutrition experiences that can be

integrated into the total school program. The most difficult part of the survey is securing accurate food records. Many studies have been made in an effort to provide helpful suggestions in this area.

Research indicates that the child who eats an adequate breakfast and lunch, generally eats an adequate dinner. For our purposes in planning an educational program for groups of children (as compared to the purposes of the physician or clinician who is planning for individuals) it is sufficient to secure as accurate a diet record as possible of the breakfasts and lunches eaten in one day. This information can be evaluated and the results interpreted in terms of food habits and attitudes that probably need the most emphasis in an educational program.

Since practically all children eat lunch in school—either participating in the school lunch or bringing lunches from home—it is fairly simple to get a record of the kinds and amounts of food eaten for lunch.

To get breakfast information is more complicated. We cannot assume an accuracy which we do not have, but it is possible, with reasonable care, to get records accurate enough for our purposes. As a result of work done in other schools, we believe that children (especially little ones) tend to forget what they have eaten if too much time elapses between the time the meal is eaten and the time it is reported. Children also tend to report eating foods they think will be approved by the recorder; thus, if the recorder (in an effort to help the child remember what he ate) mentions specific foods, a less accurate report may be the result. Since the classroom teacher knows the particular children in his class, he has the best potential for getting an accurate record.

Studies have shown that asking parents to record what the child has eaten may not always be practical. If parents are to be recorders, it is essential to have individual conferences with them to be sure they are *all* recording with the same quantitative standards in mind. Probably the most accurate and desirable method is for the teacher to talk to both the parent and the child when this is possible.

In the primary grades, it would consume too much time (in terms of the total school program) to have the teacher interview each child until he is reasonably sure he has a fairly accurate record of the breakfast eaten for one day. Therefore, if the teacher secures a record of the breakfast eaten by every third child on his register (a random sample), it is sufficient for survey purposes.

Suggestions for teachers

Kindergarten, grades 1, 2, and 3.—1. To secure the

necessary information from young children, a good method is for the teacher to talk individually with each child and record what he had for breakfast that day. To record a random sample of the class, a practical method is to talk with the boys and girls whose names appear on lines 1, 4, 7, 10, 13, 16, 19, 22, and 25 of the attendance register. It is not essential that this be completed in one day. Records will probably be more accurate if the spacing of the interviews depends on the convenience and good judgment of the teacher and administrator.

2. The best time to do this recording is as soon as possible after the child arrives in the morning.

3. If the accuracy of the report seems questionable, it might be wise to accept the report without comment and talk with the child again at a later date.

4. Although this is essentially a qualitative study of the breakfasts eaten by pupils, consideration must be given to quantities. If a child reports that he had toast for breakfast, he may have eaten a quarter slice or as much as two or three slices. It is vital to know how much of it he actually ate; otherwise, we can come to no reasonably accurate conclusions concerning the nutritional value of the breakfast.

It is also vital to record the amount of anything that was added in serving the food—such as milk and sugar to cereals.

Grades 4-8.—1. The best time to have the children record what they ate for breakfast is as soon as it is practical after class convenes in the morning.

2. If the accuracy of the reporting seems questionable, it might be wise to accept the report without comment and have children report again at a later date.

3. Although this is essentially a qualitative study of the breakfasts eaten by school children in the particular school, some consideration must be given to quantities. Without consideration of the amount eaten, we can come to no reasonable, accurate conclusions concerning the nutritional value of the breakfast. Therefore, be sure children have recorded amounts and also the amounts of anything that might have been added to the food in serving, such as milk or sugar to cereal.

4. It is essential that the food is reported precisely. There is a difference nutritionally between shredded wheat and farina, for instance. If the child reports cereal with $\frac{1}{2}$ cup milk and 1 teaspoon sugar added, even though he has carefully recorded the amount of the cereal and the amount of the milk and sugar added, it is impossible to evaluate accurately the nutritional contribution of the cereal. The same is true of fruits. Thus, children should be encouraged

to report **specific foods** rather than food groupings.

5. The information secured from the children will be used primarily as a means of appraising the nutritional needs of the group and not for the purpose of singling children out for specific attention that might be embarrassing to them.

Evaluation of food records

The evaluation of food records and interpretation in terms of nutritional needs of groups of children should be done by an experienced nutrition worker. The Extension nutrition specialist, the public health nutritionist, nutrition instructors from nearby colleges or universities, or nutrition workers in voluntary agencies such as the Visiting Nurses Association are all possible sources of help in evaluating and interpreting food records.

Food waste studies

To get a complete picture of children's food practices, it is also helpful to know what foods children will not eat in desirable amounts and why they will not eat them. Studies of the food wasted in school lunches, especially in schools where children do not go home for lunch, have thrown light in this area of investigation. Such studies have also convinced children that they leave a great deal more food than they realize.

For example, a State supervisor of nutrition education in Louisiana encouraged children and teachers at all grade levels to conduct studies of food loss in cooperation with school lunch personnel. The studies were adapted to the interests and abilities of the children and were used in several areas of learning.

A class of primary children, for instance, measured the amount of milk they left in bottles or containers. They poured the milk into a number 10 can provided by the school lunch manager. Later they measured the milk by cupfuls and decided what they might do to increase their milk drinking.

Students in seventh and eighth grade classes conducted more complicated food-waste studies. In some schools, students measured the milk left by several classes, and in other schools, they measured the green and yellow vegetables left on plates. Findings were expressed on graphs, prepared by the students, showing the percentage of waste by grade. These studies were possible because of good cooperation between teachers and school lunch personnel. The results of the studies provided guidelines for planning other activities as well as the basis for clearly defined, obtainable goals for both teachers and children.

Activities, such as vegetable-growing projects fol-

lowed by classroom tasting parties, were initiated. Some of the students learned to enjoy many of the foods they had previously refused to taste.

Improvement was usually noted when after a prearranged period of time, perhaps 2 or 3 months, a second food-waste study was made and results were compared.

Role playing

Many kindergarten and first and second grade teachers have used role playing to learn more about children's food habits, especially breakfast habits.

The teacher starts the game by suggesting that one child invite three others to a "make believe" breakfast. The rules of the game require the "hostess" to seat her guests and serve them breakfast, announcing what he or she is serving. The ensuing conversation and activity are often quite revealing to the observant teacher. She may learn —

1. Something about the assortment of foods presented to the child at home.
2. Whether or not the children are accustomed to eat as a family group in the morning.
3. Whether the child is encouraged at home to eat the food that is prepared.
4. Whether the child is expected to prepare his own breakfast.

Role playing is not as precise as a survey might be, but it often reveals information that would not show up on a survey.

Personal observation

The classroom teacher who is willing to eat lunch with her class and systematically observe the children's eating habits can learn much that will help her in the classroom. After a month of such observation, she can usually plan classroom nutrition activities that will help upgrade the diets of her pupils where such upgrading is needed.

If she observes three to five children a day and records her impressions, she will have several impressions recorded for each child by the end of the month. One child's record might look something like the example on the following page.

From this record, the teacher and the nutrition consultant might conclude that John likes milk and is a good milk drinker unless he is distracted or perhaps is not feeling up to par. Generally speaking, John is a good meat and meat-alternate eater. When it comes to fruits and vegetables, there are a few he eats but many more that he will not even taste. He eats his bread reasonably well. John likes sweets, but if the dessert has fruit in it, he may not even taste it.

John Doe (usually participates in lunch program)												
Food	Excellent			Good			Fair			Has not yet learned to enjoy		
	9/7	9/16	9/27	9/7	9/16	9/27	9/7	9/16	9/17	9/7	9/16	9/27
Milk		✓	✓				✓					
Meat or alternate		✓				✓	✓					
Fruits and vegetables					✓					✓		✓
Bread		✓				✓	✓					
Dessert		✓								✓		✓

FRONT OF CARD

John Doe (usually participates in school lunch)		
Date	Menu	Remarks
9/7	Spaghetti-meat sauce Tossed Salad Hard roll - spread Canned peaches Milk	John obviously not feeling up to par. Sent to nurse—subsequently sent home with cold.
9/16	Oven-fried chicken Mashed potatoes Corn Biscuit spread Oatmeal cookie Milk	This is John's favorite menu.
9/27	Fish sticks Broccoli Cole slaw Cornbread-spread Cherry cobbler Milk	John likes very few vegetables and even rejects desserts made with fruits. Today he was anxious to get on the playground and did not want to take the time to eat.

REVERSE OF CARD

Since the teacher is concerned about the habits of individual children only to learn about the group, she will evaluate records of all the children. If, by and large, the class are good milk drinkers, she will plan her classroom activities to encourage them to keep up the good practice and to improve in areas where they are not doing so well. With practice, the teacher will find that she can observe the group as a whole, and if fruits and vegetables are not well accepted, she will soon spot which ones are least acceptable. The nutrition consultant can help the teacher choose which of the least acceptable vegetables should be emphasized. For example, if cucumbers and greens are both poorly accepted, the nutritionist would suggest activities to encourage children to taste greens because they are good sources of vitamin A and iron—nutrients that are often below recommended levels when diets are rated “poor.”

Contacts with parents

In many elementary schools, teachers have periodic conferences with parents. Many teachers have found a comment about the child's food practices in the lunchroom (whether the child participates in the lunch program or brings lunch from home) a good “ice breaker” for getting such conferences started. A comment like, “I notice Susie is an excellent milk drinker” may set Susie's mother at ease, or it may bring more information about Susie's food habits at home. Her mother might say, “She may drink her milk without question here but at home it is a different story.” From there, parent and teacher can work together to help Susie with her milk drinking.

In a first-grade class, children served breakfast as part of a social studies project to learn about children of another country. Oatmeal with milk was a part of the breakfast menu and was enjoyed by most of the children.

One child went home and enthusiastically reported on the activity. His mother was surprised to learn he had eaten and enjoyed the oatmeal. When she subsequently served oatmeal, he rejected it insisting that it was not the same as the oatmeal served at school.

The mother asked the teacher about the oatmeal—the method of preparation and how it was served—only to find that there was no difference between the oatmeal served at home and that served at school. The teacher then made a good suggestion. If the mother would send money to school, the teacher would purchase the oatmeal and let the child carry it home. Now, the child ate the cereal with enjoyment. After the first box or two, he forgot to question where the oatmeal came from.

IN CONCLUSION

The most successful nutrition education programs have been designed to meet nutritional needs of the particular children being taught. With knowledge of what her pupils will eat, the classroom teacher—with the help of a nutrition consultant and the cooperation of the school medical staff and the administrator—can provide experiences for children that (1) will help extend the variety of foods they will eat, and (2) will convince them that food makes a difference in how they grow, how they look, how they feel, and how well they can work and play.